



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA

February 14, 2017

George ("Pat") Brooks
US Department of the Navy
33000 Nixie Way, Bldg 50
San Diego, CA 92147

Dear Pat:

Thank you for your continued collaboration with respect to developing the Radiological Data Evaluation Plan. EPA has reviewed your presentation on January 31, 2017, about the Radionuclides of Concern to be evaluated. In the comments submitted February 7, 2017, regarding the Responses to Comments and the Redline version of the Plan, we stated that we would follow up with more detailed comments separately. Attached are these details.

EPA looks forward to continuing to work together on this priority issue. Please contact me or Lily Lee on my staff if you would like to discuss any of these comments. You can reach me at 415-947-4187 or lee.lily@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Lily Lee", is positioned above the printed name.

Lily Lee
Remedial Project Manager

Attachment

cc. Nina Bacey, State Department of Toxic Substances Control
Tina Low, Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health

US Environmental Protection Agency comments on Radionuclides of Concern
Presented by third part independent contractor January 31, 2017
Comments dated February 14, 2017

Thank you for your January 31, 2017, presentation about focusing strategically on certain radionuclides of concern. On February 7, 2017, EPA submitted this comment on Responses to Comments and Redline:

“Overall at the HPNS, based on the history of the site and data collected from multiple contractors, Ra-226 has greatest the greatest likelihood for the highest activity with health implications prior to remediation. For most of the HPNS, EPA supports the approach proposed by the third party independent consultant. In some specific areas where particular radionuclides of concern other than Ra-226 and Cs-137 have been measured, please include those additional radionuclides in the statistical analyses. Some of these specific areas were identified on the January 31, 2017, conference call.”

Here are examples where we recommend further evaluation:

1. Strontium 90 (Sr-90) and Cesium 137 (Cs-137) in Parcel E 500 series buildings and the Building 707 triangle areas where NRDL operations occurred
2. Sr-90 in luminescent deck markers or other radiological commodities in areas where Sr-90 devices have been found.
3. Sr-90, Cs-137, and Plutonium 239 (Pu-239) in a vault together in the Parcel E 500 series area
4. Thorium 232 (Th-232) in Building 130 gravel in Parcel B
5. Americium 241 (Am-241) in the vicinity of the building used for Geotechnical testing.

In addition, for the record, here are two situations that EPA would not consider a priority for further evaluation:

Cobalt 60 (Co-60): The Navy ceased Shipyard operations in 1974, 42 years ago. The half-life of Co-60 is 5.26 yrs. After seven to ten half-lives (i.e., 37 to 53 years), remaining radiological activity would be at levels similar to background. Therefore, Co-60 is not a priority health and safety concern, and any Co-60 sampling conducted would not be a helpful indicator of potential prior falsification.

Europium: Europium was found in the Gun Mole Pier in Parcel D-1, but that work was done by Shaw, and not Tetra Tech EC, so it is not a priority for this evaluation.